

Billing Code: 4520-43-P

DEPARTMENT OF LABOR

Mine Safety and Health Administration

Petitions for Modification of Application of Existing Mandatory Safety Standards

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Notice.

SUMMARY: Section 101(c) of the Federal Mine Safety and Health Act of 1977 and Title 30 of the Code of Federal Regulations Part 44 govern the application, processing, and disposition of petitions for modification. This notice is a summary of petitions for modification submitted to the Mine Safety and Health Administration (MSHA) by the parties listed below.

DATES: All comments on the petitions must be received by MSHA's Office of Standards, Regulations, and Variances on or before [Insert date 30 days from the date of publication in the FEDERAL REGISTER].

ADDRESSES: You may submit your comments, identified by "docket number" on the subject line, by any of the following methods:

- 1. <u>Electronic Mail:</u> zzMSHA-comments@dol.gov. Include the docket number of the petition in the subject line of the message.
 - 2. Facsimile: 202-693-9441.
- 3. <u>Regular Mail or Hand Delivery</u>: MSHA, Office of Standards, Regulations, and Variances, 201 12th Street South, Suite 4E401, Arlington, Virginia 22202-5452,

Attention: Sheila McConnell, Director, Office of Standards, Regulations, and Variances.

Persons delivering documents are required to check in at the receptionist's desk in Suite 4E401.

Individuals may inspect copies of the petitions and comments during normal business hours at

the address listed above.

MSHA will consider only comments postmarked by the U.S. Postal Service or proof of

delivery from another delivery service such as UPS or Federal Express on or before the deadline

for comments.

FOR FURTHER INFORMATION CONTACT: Barbara Barron, Office of Standards,

Regulations, and Variances at 202-693-9447 (Voice), barron.barbara@dol.gov (E-mail), or 202-

693-9441 (Facsimile). [These are not toll-free numbers.]

SUPPLEMENTARY INFORMATION:

I. Background

Section 101(c) of the Federal Mine Safety and Health Act of 1977 (Mine Act) allows the

mine operator or representative of miners to file a petition to modify the application of any

mandatory safety standard to a coal or other mine if the Secretary of Labor determines that:

1. An alternative method of achieving the result of such standard exists which will at all

times guarantee no less than the same measure of protection afforded the miners of such mine by

such standard; or

2. That the application of such standard to such mine will result in a diminution of safety

to the miners in such mine.

In addition, the regulations at 30 CFR 44.10 and 44.11 establish the requirements and

procedures for filing petitions for modification.

II. Petitions for Modification

Docket Number: M-2016-015-C.

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Petitioner: Canyon Fuel Company, LLC, HC 35, Box 380, Helper, Utah 84526.

Mine: Skyline mine, MSHA I.D. No. 42-01566, located in Carbon County, Utah.

Regulation Affected: 30 CFR 75.380(d)(4) (Escapeways; bituminous and lignite mines).

Modification Requested: The petitioner requests a modification of the existing standard to

permit an escapeway to be maintained at least 4 feet wide where the route of travel passes by

conveyor belt components. The petitioner states that:

(1) The standard 6-foot wide walkway specified in 30 CFR 75.380(d)(4) already allows

for exceptions to the 6-foot walkway, including where supplemental support is installed and

where the escapeways pass through doors. When these two situations arise, the standard 6-foot

walkway is reduced to 4 feet. Conveyor belt components such as belt drives, belt storage units

and belt transfers may also impinge upon the standard 6-foot walkway. The petitioner proposes

to:

(a) Demonstrate that four miners carrying a stretcher could quickly traverse an area at the

widths proposed in this petition.

(b) Identify the portions of the alternate escapeway where this petition is in effect on the

mine map required by 30 CFR 75.372.

(c) Maintain the full 4-foot width of the escapeway in areas affected by this petition free

of accumulations of mud, water, and other hazards at all times.

The petitioner asserts that the proposed alternative method will at all times provide no

less than the same measure of protection afford by the existing standard.

Docket Number: M-2016-016-C.

<u>Petitioner</u>: Marshall County Coal Company, 1 Bridge Street, Monongah, West Virginia 26554.

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Mine: Marshall County Mine, MSHA I.D. No. 46-01437, located in Marshall County, West Virginia.

Regulation Affected: 30 CFR 75.1700 (Oil and gas wells).

<u>Modification Requested</u>: The petitioner requests that the previously granted petition for modification be amended for the McElroy Coal Company, McElroy Mine, Docket Number M-1988-199-C (now known as the Marshall County Coal Company, Marshall County Mine, MSHA I.D. No. 46-01437). The petitioner states that:

- (1) The large majority of petroleum wells in the Marshall County Coal Company Mine were drilled prior to 1930 when no standards for drilling and plugging existed. Many wells were abandoned during that time.
- (2) Extensive research conducted by the U.S. Bureau of Mines, Energy Research and Development Administration, MSHA and past experience by Consolidation Coal Company has disclosed that certain plugging methods can effectively prevent explosive well gases from entering the mine during regular mining operations and allow additional safety and operational benefits that are not possible under §75.1700.
- (3) In lieu of establishing and maintaining barriers around oil and gas wells, the petitioner proposes to seal the Pittsburgh Coal Seam from the surrounding strata at the affected wells by using technology developed through the petitioner's successful well-plugging program. Since the inception of the well-plugging program, thousands of previously abandoned oil and gas wells have been effectively plugged and successfully been mined through or around.
- (4) In lieu of the method of plugging oil and gas wells approved in the previously granted petition, the petitioner proposes an alternative method that incorporates proven

technological advances not available for plugging oil and gas wells when the previous petition was granted.

As an alternative method of compliance with 30 CFR 75.1700, the petitioner proposes to maintain a safety barrier of 300 feet in diameter (150 feet between any mined area and a well) around all oil and gas wells (defined to include all active, inactive, abandoned, shut-in, and previously plugged wells, including water injection wells) until approval to proceed with mining has been obtained from the District Manager (DM).

Prior to mining through any oil or gas wells, the petitioner will provide to the DM a declaration stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed. The declaration will be accompanied by logs described in this petition and any other records that the DM may request. The DM will review the declaration, the logs and any other records that have been requested, and may inspect the well, and determine if the operator has complied with the procedures for cleaning out, preparing and plugging each well. If the DM determines that the procedures have been complied with and provides an approval, the operator may then mine within the safety barrier of the well according to the terms of the Order.

- a. The petitioner proposes to use the following procedures when cleaning out and preparing oil and gas wells prior to plugging or replugging:
- (1) If the total depth of the well is less than 4,000 feet, the operator will completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam unless the DM requires cleaning to a greater depth based on what is required due to the geological strata, or due to the pressure within the well. If the total depth of the well is 4,000 feet or greater, the operator will completely clean out the well from the surface to at least 400

feet below the base of the lowest mineable coal seam. The operator will remove all material from the entire diameter of well, wall to wall.

- (2) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for a bridge plug. The DM may approve the use of a down-hole camera survey in lieu of down-hole logs. In addition, the operator will maintain a journal describing: the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; the length of casing(s) removed, perforated or ripped, or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.
- (3) Remove all of the casing in the well or, if it is not possible to remove all of the casing, fill the annulus between the casings and between the casings and the well walls with expanding cement (minimum 0.5 percent expansion on setting) and ensure that these areas contain no voids. If the casing cannot be removed, the operator will cut or mill it at all mineable coal seam levels and perforate or rip it at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. If the operator can demonstrate to the satisfaction of the DM that all annuli in the well are already adequately sealed with cement using a casing bond log, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), the operator will perforate or rip any casing that remains and fill with expanding cement and keep an

acceptable casing bond log for each casing and tubing string used in lieu of ripping or perforating multiple strings.

- (4) Place a mechanical bridge plug in the well if a cleaned-out well emits excessive amounts of gas. Place the mechanical bridge plug in a competent stratum at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the DM requires a greater distance based on what is required due to the geological strata, or due to the pressure within the well. (The operator will provide the DM with all information it possesses concerning the geologic nature of the strata and the pressure of the well.) If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used.
- (5) Properly place mechanical bridge plugs to isolate the hydrocarbon-producing stratum from the expanding cement plug, if the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam. Nevertheless, the operator will place a minimum of 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater distance base on what is required due to the geological strata, or due to the pressure within the well.
- b. The petitioner proposes to use the following procedures for plugging or replugging oil or gas wells to the surface:
- (1) Pump expanding cement slurry down the well to form a plug that runs from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam (or lower if required by the DM due to the geological strata, or due to pressure within the well) to the surface. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch. Portland cement or a lightweight

cement mixture may be used to fill the area from 100 feet above the top of the uppermost mineable coal seam (or higher if required by the DM due to the geological strata, or due to the pressure within the well) to the surface.

- (2) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the American Petroleum Institute (API) well number either engraved or welded on the casing. When the hole cannot be marked with a physical monument (e.g., prime farmland), the operator will use high-resolution GPS coordinates (one-half meter resolution) to locate the hole.
- c. The petitioner proposes to use the following procedures for plugging or replugging oil and gas wells for subsequent use as degasification boreholes:
- (1) Set a cement plug in the well by pumping expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to the pressure within the well. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch, and extend the top of the expanding cement at least 100 feet above the top of the coal seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well.
- (2) Securely grout a suitable casing into the bedrock of the upper portion of the degasification well to protect it. The remainder of this well may be cased or uncased.
- (3) Fit the top of the degasification casing with a wellhead, equipped as required by the DM in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.

- (4) Operation of the degasification well will be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.
- (5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, seal the degas holes using the following procedures:
- (i) Insert a tube to the bottom of the drill hole or, if not possible, to at least 100 feet above the coal seam being mined. Remove any blockage to ensure that the tube is inserted to this depth.
- (ii) Set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.
- (iii) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the API well number engraved or welded on the casing.
- d. The petitioner proposes to use the following procedures for preparing and plugging or replugging oil or gas wells that cannot be completely cleaned out:
- (1) Drill a hole adjacent and parallel to the well to a depth of at least 200 feet (or 400 feet if the total well depth is 4,000 feet or greater) below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to pressures within the well.
 - (2) Locate any casing that may remain in the well using a geophysical sensing device.
- (3) If the well contains casings, drill into the well from the parallel hole and perforate or rip all casings at intervals of at least 5 feet from 10 feet below the coal seam to 10 feet above the coal seam. Beyond that distance, perforate or rip all casings at least every 50 feet from at least

200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well. The operator will fill the annulus between the casings and between the casings and the well wall with expanding cement (minimum of 0.5% expansion on setting), and ensure that these areas contain no voids. When multiple casing and tubing strings are present in the coal horizons, rip or perforate any casing that remains and fill with expanding cement. The operator will provide an acceptable casing bond log for each casing and tubing used in lieu of ripping or perforating multiple strings.

- (4) Use a horizontal hydraulic fracturing technique to intercept the original well where there is insufficient casing in the well to allow use of the method outlined in paragraph (d)(3) above. Fracture the original well in at least six places from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam to a point at least 50 feet above the seam being mined at intervals to be agreed on by the petitioner and the DM after considering the geological strata and the pressure within the well. The operator will pump expanding cement into the fractured well in sufficient quantities and in a manner that fills all intercepted voids.
- (5) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The operator will maintain a journal describing: the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; the length and type of each material used to plug the well; length of casing(s) removed, perforated, ripped, or left in place; and other pertinent information

concerning sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.

- (6) After the plugging the well, plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cement mixture.
- (7) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level.
- e. The petitioner proposes to use the following procedures after approval has been granted by the DM to mine through a plugged or replugged well:
- (1) Prior to cutting-through a plugged well, notify the DM or designee, representative of the miners, and the appropriate State agency in sufficient time for them to have a representative present.
- (2) Install drivage spads at the last open crosscut near the place to be mined to ensure intersection of the well when mining through wells using continuous mining equipment. The drivage spads will not be more than 50 feet from the well. Install drivage spads on 10-foot centers for a distance of 50 feet in advance of the well when using longwall-mining methods. The drivage spads will also be installed in the headgate.
- (3) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mine-through (when either the conventional or continuous mining method is used), will be available and operable during each well mine-through. The operator will locate the fire hose in the last open crosscut of the entry or room and maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section.

- (4) Keep available at the last open crosscut, a supply of roof support and ventilation materials sufficient to ventilate and support around the well on cut-through. In addition, keep emergency plugs and suitable sealing materials will be available in the immediate area of the well intersection.
- (5) On the shift prior to mining through the well, all equipment will be serviced and checked for permissibility. Water sprays, water pressures and water flow rates used for dust and spark suppression will be examined and any deficiencies will be corrected.
- (6) Calibrate the methane monitors on the longwall, continuous mining machine, or cutting machine and loading machine on the shift prior to mining through the well.
- (7) When mining is in progress, test methane levels with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through it. No individual is allowed on the return side during the actual cutting process until the mine-through has been completed and the area examined and declared safe. All workplace examinations will be conducted on the return side of the shearer while the shearer is idle.
- (8) Keep the working place free from accumulations of coal dust and coal spillages, and apply rock dust on the roof, rib, and floor to within 20 feet of the face when mining through the well when using continuous or conventional mining methods. Conduct rock dusting on longwall sections on the roof, rib, and floor up to both the headgate and tailgate gob.
- (9) When using continuous or conventional mining methods, the working places will be free of accumulations of coal dust and coal spillages, and rock dust will be applied on the roof, rib, and floor to within 20 feet of the face when mining through the well. On longwall sections,

rock dusting will be conducted and place on the roof, rib, and floor up to both the headgate and tailgate gob.

- (10) Deenergize all equipment when the well is intersected and thoroughly examine the place and determine it is safe before resuming mining. After a well has been intersected and the working place determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the well.
- (11) If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. In rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame is permitted in the area until adequate ventilation has been established around the wellbore and methane levels are less than 1.0 percent in all areas that will be exposed to flames and sparks from the torch. The operator will apply a thick layer of rock dust to the roof, face, floor, ribs, and any exposed coal within 20 feet of the casing prior to any use of torches.
- (12) Non-sparking (brass) tools will be located on the working section and will be used to expose and examine cased wells.
- (13) No person will be permitted in the area of the cut-through operation except those actually engaged in the mining operation, including company personnel, representative of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (14) The operator will alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift.

 This warning will be repeated for all shifts until the well has been mined through.
- (15) A certified official will directly supervise the cut-through operation and only the certified official in charge will issue instructions concerning the mine-through operation.

(16) The responsible person required in 30 CFR 75.1501 will be responsible for well intersection emergencies. The responsible person will review the well intersection procedures prior to any planned intersection.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved part 48 training plan to the DM. The proposed revisions will include initial and refresher training regarding compliance with the terms and conditions of this petition for modification. The operator will provide all miners involved in the mine-through of a well with training regarding the requirements of this petition for modification prior to mining within 150 feet of the next well to be mined through.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved mine emergency evacuation and firefighting plan required in 30 CFR 75.1501. The petitioner will revise the plans to include the hazards and evacuation procedures to be used for well intersections. All underground miners will be trained in this revised plan within 30 days of the DM's approval of the revised evacuation plan. Such training may be done in a weekly safety meeting or other type of appropriate setting.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure or protection afforded by the existing standard.

Docket Number: M-2016-017-C.

<u>Petitioner</u>: The Marion County Coal Company, 1 Bridge Street, Monongah, West Virginia 26554.

Mine: Marion County Mine, MSHA I.D. No. 46-01433, located in Marion County, West Virginia.

Regulation Affected: 30 CFR 75.1700 (Oil and gas wells).

<u>Modification Requested</u>: The petitioner requests that the previously granted petition for modification be amended for the Consolidation Coal Company, Loveridge Mine, Docket Number M-1990-156-C (now known as the Marion County Coal Company, Marion County Mine, MSHA I.D. No. 46-01433). The petitioner states that:

- (1) The large majority of petroleum wells in the Marion County Coal Company Mine were drilled prior to 1930 when no standards for drilling and plugging existed. Many wells were abandoned during that time.
- (2) Extensive research conducted by the U.S. Bureau of Mines, Energy Research and Development Administration, MSHA and past experience by Consolidation Coal Company has disclosed that certain plugging methods can effectively prevent explosive well gases from entering the mine during regular mining operations and allow additional safety and operational benefits that are not possible under §75.1700.
- (3) In lieu of establishing and maintaining barriers around oil and gas wells, the petitioner proposes to seal the Pittsburgh Coal Seam from the surrounding strata at the affected wells by using technology developed through the petitioner's successful well-plugging program. Since the inception of the well-plugging program, thousands of previously abandoned oil and gas wells have been effectively plugged and successfully been mined through or around.
- (4) In lieu of the method of plugging oil and gas wells approved in the previously granted petition, the petitioner proposes an alternative method that incorporates proven technological advances not available for plugging oil and gas wells when the previous petition was granted.

As an alternative method of compliance with 30 CFR 75.1700, the petitioner proposes to maintain a safety barrier of 300 feet in diameter (150 feet between any mined area and a well)

around all oil and gas wells (defined to include all active, inactive, abandoned, shut-in, and previously plugged wells, including water injection wells) until approval to proceed with mining has been obtained from the District Manager (DM).

Prior to mining through any oil or gas wells, the petitioner will provide to the DM a declaration stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed. The declaration will be accompanied by logs described in this petition and any other records that the DM may request. The DM will review the declaration, the logs and any other records that have been requested, and may inspect the well, and will then determine if the operator has complied with the procedures for cleaning out, preparing and plugging each well. If the DM determines that the procedures have been complied with and provides an approval, the operator may then mine within the safety barrier of the well according to the terms of the Order.

- a. The petitioner proposes to use the following procedures when cleaning out and preparing oil and gas wells prior to plugging or replugging:
- (1) If the total depth of the well is less than 4,000 feet, the operator will completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam unless the DM requires cleaning to a greater depth based on what is required due to the geological strata, or due to the pressure within the well. If the total depth of the well is 4,000 feet or greater, the operator will completely clean out the well from the surface to at least 400 feet below the base of the lowest mineable coal seam. The operator will remove all material from the entire diameter of well, wall to wall.
- (2) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential

hydrocarbon-producing strata and the location for a bridge plug. The DM may approve the use of a down-hole camera survey in lieu of down-hole logs. In addition, maintain a journal describing: the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; the length of casing(s) removed, perforated or ripped, or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.

- (3) Remove all of the casing in the well or, if it is not possible to remove all of the casing, fill the annulus between the casings and between the casings and the well walls with expanding cement (minimum 0.5 percent expansion on setting) and ensure that these areas contain no voids. If the casing cannot be removed, the operator will cut or mill it at all mineable coal seam levels and perforate or rip it at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. If the operator can demonstrate to the satisfaction of the DM that all annuli in the well are already adequately sealed with cement using a casing bond log, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), the operator will perforate or rip any casing that remains and fill with expanding cement and keep an acceptable casing bond log for each casing and tubing string used in lieu of ripping or perforating multiple strings.
- (4) Place a mechanical bridge plug in the well if a cleaned-out well emits excessive amounts of gas. Place the mechanical bridge plug in a competent stratum at least 200 feet (400

feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the DM requires a greater distance based on what is required due to the geological strata, or due to the pressure within the well. (The operator will provide the DM with all information it possesses concerning the geologic nature of the strata and the pressure of the well.) If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used.

- (5) Properly place mechanical bridge plugs to isolate the hydrocarbon-producing stratum from the expanding cement plug, if the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam. Nevertheless, the operator will place a minimum of 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater distance base on what is required due to the geological strata, or due to the pressure within the well.
- b. The petitioner proposes to use the following procedures for plugging or replugging oil or gas wells to the surface:
- (1) Pump expanding cement slurry down the well to form a plug that runs from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam (or lower if required by the DM due to the geological strata, or due to pressure within the well) to the surface. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch. Portland cement or a lightweight cement mixture may be used to fill the area from 100 feet above the top of the uppermost mineable coal seam (or higher if required by the DM due to the geological strata, or due to the pressure within the well) to the surface.

- (2) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the American Petroleum Institute (API) well number either engraved or welded on the casing. When the hole cannot be marked with a physical monument (e.g., prime farmland), the operator will use high-resolution GPS coordinates (one-half meter resolution) to locate the hole.
- c. The petitioner proposes to use the following procedures for plugging or replugging oil and gas wells for subsequent use as degasification boreholes:
- (1) Set a cement plug in the well by pumping expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to the pressure within the well. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch and extend the top of the expanding cement at least 100 feet above the top of the coal seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well.
- (2) Securely grout a suitable casing into the bedrock of the upper portion of the degasification well to protect it. The remainder of this well may be cased or uncased.
- (3) Fit the top of the degasification casing with a wellhead, equipped as required by the DM in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.
- (4) Operation of the degasification well will be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.

- (5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, seal the degas holes using the following procedures:
- (i) Insert a tube to the bottom of the drill hole or, if not possible, to at least 100 feet above the coal seam being mined. Remove any blockage to ensure that the tube is inserted to this depth.
- (ii) Set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.
- (iii) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the API well number engraved or welded on the casing.
- d. The petitioner proposes to use the following procedures for preparing and plugging or replugging oil or gas wells that cannot be completely cleaned out:
- (1) Drill a hole adjacent and parallel to the well to a depth of at least 200 feet (or 400 feet if the total well depth is 4,000 feet or greater) below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to pressures within the well.
 - (2) Locate any casing that may remain in the well using a geophysical sensing device.
- (3) If the well contains casings, drill into the well from the parallel hole and perforate or rip all casings at intervals of at least 5 feet from 10 feet below the coal seam to 10 feet above the coal seam. Beyond that distance, perforate or rip all casings at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well. The operator will fill

the annulus between the casings and between the casings and the well wall with expanding cement (minimum of 0.5% expansion on setting), and ensure that these areas contain no voids. When multiple casing and tubing strings are present in the coal horizons, rip or perforate any casing that remains and fill with expanding cement. The operator will provide an acceptable casing bond log for each casing and tubing used in lieu of ripping or perforating multiple strings.

- (4) Use a horizontal hydraulic fracturing technique to intercept the original well where there is sufficient casing in the well to allow use of the method outlined in paragraph (d)(3) above. Fracture the original well in at least six places from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam to a point at least 50 feet above the seam being mined at intervals to be agreed on by the petitioner and the DM after considering the geological strata and the pressure within the well. The operator will pump expanding cement into the fractured well in sufficient quantities and in a manner that fills all intercepted voids.
- (5) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The operator will maintain a journal describing; the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; the length and type of each material used to plug the well; length of casing(s) removed, perforated, ripped, or left in place; and other pertinent information concerning sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.
- (6) After the plugging the well, plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cement mixture.

- (7) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level.
- e. The petitioner proposes to use the following procedures after approval has been granted by the DM to mine through a plugged or replugged well:
- (1) Prior to cutting-through a plugged well, notify the DM or designee, representative of the miners, and the appropriate State agency in sufficient time for them to have a representative present.
- (2) Install drivage spads at the last open crosscut near the place to be mined to ensure intersection of the well when mining through wells using continuous mining equipment. The drivage spads will not be more than 50 feet from the well. Install drivage spads on 10-foot centers for a distance of 50 feet in advance of the well when using longwall-mining methods. The drivage spads will also be installed in the headgate.
- (3) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mine-through (when either the conventional or continuous mining method is used), will be available and operable during each well mine-through. The operator will locate the fire hose in the last open crosscut of the entry or room and maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section.
- (4) Keep available at the last open crosscut, a supply of roof support and ventilation materials sufficient to ventilate and support around the well on cut-through. In addition, keep emergency plugs and suitable sealing materials will be available in the immediate area of the well intersection.

- (5) On the shift prior to mining through the well, all equipment will be serviced and checked for permissibility. Water sprays, water pressures and water flow rates used for dust and spark suppression will be examined and any deficiencies will be corrected.
- (6) Calibrate the methane monitors on the longwall, continuous mining machine, or cutting machine and loading machine on the shift prior to mining through the well.
- (7) When mining is in progress, test methane levels with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through it. No individual is allowed on the return side during the actual cutting process until the mine-through has been completed and the area examined and declared safe. All workplace examinations will be conducted on the return side of the shearer while the shearer is idle.
- (8) Keep the working place free from accumulations of coal dust and coal spillages, and apply rock dust on the roof, rib, and floor to within 20 feet of the face when mining through the well when using continuous or conventional mining methods. Conduct rock dusting on longwall sections on the roof, rib, and floor up to both the headgate and tailgate gob.
- (9) When using continuous or conventional mining methods, the working places will be free of accumulations of coal dust and coal spillages, and rock dust will be applied on the roof, rib, and floor to within 20 feet of the face when mining through the well. On longwall sections, rock dusting will be conducted and place on the roof, rib, and floor up to both the headgate and tailgate gob.
- (10) Deenergize all equipment when the well is intersected and thoroughly examine the place and determine it is safe before resuming mining. After a well has been intersected and the

working place determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the well.

- (11) If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. In rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame is permitted in the area until adequate ventilation has been established around the wellbore and methane levels are less than 1.0 percent in all areas that will be exposed to flames and sparks from the torch. The operator will apply a thick layer of rock dust to the roof, face, floor, ribs, and any exposed coal within 20 feet of the casing prior to any use of torches.
- (12) Non-sparking (brass) tools will be located on the working section and will be used to expose and examine cased wells.
- (13) No person will be permitted in the area of the cut-through operation except those actually engaged in the mining operation, including company personnel, representative of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (14) The operator will alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift.

 This warning will be repeated for all shifts until the well has been mined through.
- (15) A certified official will directly supervise the cut-through operation and only the certified official in charge will issue instructions concerning the mine-through operation.
- (16) The responsible person required in 30 CFR 75.1501 will be responsible for well intersection emergencies. The responsible person will review the well intersection procedures prior to any planned intersection.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved part 48 training plan to the DM. The proposed revisions will include initial and refresher training regarding compliance with the terms and conditions of this petition for modification. The operator will provide all miners involved in the mine-through of a well with training regarding the requirements of this petition for modification prior to mining within 150 feet of the next well to be mined through.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved mine emergency evacuation and firefighting plan required in 30 CFR 75.1501. The petitioner will revise the plans to include the hazards and evacuation procedures to be used for well intersections. All underground miners will be trained in this revised plan within 30 days of the DM's approval of the revised evacuation plan. Such training may be done in a weekly safety meeting or other type of appropriate setting.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure or protection afforded by the existing standard.

Docket Number: M-2016-018-C.

<u>Petitioner</u>: The Monongalia County Coal Company, 1 Bridge Street, Monongah, West Virginia 26554.

Mine: Monongalia County Mine, MSHA I.D. No. 46-01968, located in Monongalia County, West Virginia.

Regulation Affected: 30 CFR 75.1700 (Oil and gas wells).

<u>Modification Requested</u>: The petitioner requests that the previously granted petition for modification be amended for the Consolidation Coal Company, Blacksville No. 2 Mine, Docket

Number M-2001-014-C (now known as the Monongalia County Coal Company, Monongalia County Mine, MSHA I.D. No. 46-01968). The petitioner states that:

- (1) The large majority of petroleum wells in the Marion County Coal Company Mine were drilled prior to 1930 when no standards for drilling and plugging existed. Many wells were abandoned during that time.
- (2) Extensive research conducted by the U.S. Bureau of Mines, Energy Research and Development Administration, MSHA and past experience by Consolidation Coal Company has disclosed that certain plugging methods can effectively prevent explosive well gases from entering the mine during regular mining operations and allow additional safety and operational benefits that are not possible under §75.1700.
- (3) In lieu of establishing and maintaining barriers around oil and gas wells, the petitioner proposes to seal the Pittsburgh Coal Seam from the surrounding strata at the affected wells by using technology developed through the petitioner's successful well-plugging program. Since the inception of the well-plugging program, thousands of previously abandoned oil and gas wells have been effectively plugged and successfully been mined through or around.
- (4) In lieu of the method of plugging oil and gas wells approved in the previously granted petition, the petitioner proposes an alternative method that incorporates proven technological advances not available for plugging oil and gas wells when the previous petition was granted.

As an alternative method of compliance with 30 CFR 75.1700, the petitioner proposes to maintain a safety barrier of 300 feet in diameter (150 feet between any mined area and a well) around all oil and gas wells (defined to include all active, inactive, abandoned, shut-in, and

previously plugged wells, including water injection wells) until approval to proceed with mining has been obtained from the District Manager (DM).

Prior to mining through any oil or gas wells, the petitioner will provide to the DM a declaration stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed. The declaration will be accompanied by logs described in this petition and any other records that the DM may request. The DM will review the declaration, the logs and any other records that have been requested, and may inspect the well, and will then determine if the operator has complied with the procedures for cleaning out, preparing and plugging each well. If the DM determines that the procedures have been complied with and provides an approval, the operator may then mine within the safety barrier of the well according to the terms of the Order.

- a. The petitioner proposes to use the following procedures when cleaning out and preparing oil and gas wells prior to plugging or replugging:
- (1) If the total depth of the well is less than 4,000 feet, the operator will completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam unless the DM requires cleaning to a greater depth based on what is required due to the geological strata, or due to the pressure within the well. If the total depth of the well is 4,000 feet or greater, the operator will completely clean out the well from the surface to at least 400 feet below the base of the lowest mineable coal seam. The operator will remove all material from the entire diameter of well, wall to wall.
- (2) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for a bridge plug. The DM may approve the use

of a down-hole camera survey in lieu of down-hole logs. In addition, maintain a journal describing: the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; the length of casing(s) removed, perforated or ripped, or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.

- (3) Remove all of the casing in the well or, if it is not possible to remove all of the casing, fill the annulus between the casings and between the casings and the well walls with expanding cement (minimum 0.5 percent expansion on setting) and ensure that these areas contain no voids. If the casing cannot be removed, the operator will cut or mill it at all mineable coal seam levels and perforate or rip it at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. If the operator can demonstrate to the satisfaction of the DM that all annuli in the well are already adequately sealed with cement using a casing bond log, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), the operator will perforate or rip any casing that remains and fill with expanding cement and keep an acceptable casing bond log for each casing and tubing string used in lieu of ripping or perforating multiple strings.
- (4) Place a mechanical bridge plug in the well if a cleaned-out well emits excessive amounts of gas. Place the mechanical bridge plug in a competent stratum at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal

seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the DM requires a greater distance based on what is required due to the geological strata, or due to the pressure within the well. (The operator will provide the DM with all information it possesses concerning the geologic nature of the strata and the pressure of the well.) If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used.

- (5) Properly place mechanical bridge plugs to isolate the hydrocarbon-producing stratum from the expanding cement plug, if the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam. Nevertheless, the operator will place a minimum of 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater distance base on what is required due to the geological strata, or due to the pressure within the well.
- b. The petitioner proposes to use the following procedures for plugging or replugging oil or gas wells to the surface:
- (1) Pump expanding cement slurry down the well to form a plug that runs from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam (or lower if required by the DM due to the geological strata, or due to pressure within the well) to the surface. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch. Portland cement or a lightweight cement mixture may be used to fill the area from 100 feet above the top of the uppermost mineable coal seam (or higher if required by the DM due to the geological strata, or due to the pressure within the well) to the surface.
- (2) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a

4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the American Petroleum Institute (API) well number either engraved or welded on the casing.

When the hole cannot be marked with a physical monument (e.g., prime farmland), the operator will use high-resolution GPS coordinates (one-half meter resolution) to locate the hole.

- c. The petitioner proposes to use the following procedures for plugging or replugging oil and gas wells for subsequent use as degasification boreholes:
- (1) Set a cement plug in the well by pumping expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to the pressure within the well. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch and extend the top of the expanding cement at least 100 feet above the top of the coal seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well.
- (2) Securely grout a suitable casing into the bedrock of the upper portion of the degasification well to protect it. The remainder of this well may be cased or uncased.
- (3) Fit the top of the degasification casing with a wellhead, equipped as required by the DM in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.
- (4) Operation of the degasification well will be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.
- (5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, seal the degas holes using the following procedures:

- (i) Insert a tube to the bottom of the drill hole or, if not possible, to at least 100 feet above the coal seam being mined. Remove any blockage to ensure that the tube is inserted to this depth.
- (ii) Set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.
- (iii) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the API well number engraved or welded on the casing.
- d. The petitioner proposes to use the following procedures for preparing and plugging or replugging oil or gas wells that cannot be completely cleaned out:
- (1) Drill a hole adjacent and parallel to the well to a depth of at least 200 feet (or 400 feet if the total well depth is 4,000 feet or greater) below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to pressures within the well.
 - (2) Locate any casing that may remain in the well using a geophysical sensing device.
- (3) If the well contains casings, drill into the well from the parallel hole and perforate or rip all casings at intervals of at least 5 feet from 10 feet below the coal seam to 10 feet above the coal seam. Beyond that distance, perforate or rip all casings at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well. The operator will fill the annulus between the casings and between the casings and the well wall with expanding cement (minimum of 0.5% expansion on setting), and ensure that these areas contain no voids.

When multiple casing and tubing strings are present in the coal horizons, rip or perforate any casing that remains and fill with expanding cement. The operator will provide an acceptable casing bond log for each casing and tubing used in lieu of ripping or perforating multiple strings.

- (4) Use a horizontal hydraulic fracturing technique to intercept the original well where there is sufficient casing in the well to allow use of the method outlined in paragraph (d)(3) above. Fracture the original well in at least six places from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam to a point at least 50 feet above the seam being mined at intervals to be agreed on by the petitioner and the DM after considering the geological strata and the pressure within the well. The operator will pump expanding cement into the fractured well in sufficient quantities and in a manner that fills all intercepted voids.
- (5) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The operator will maintain a journal describing; the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; the length and type of each material used to plug the well; length of casing(s) removed, perforated, ripped, or left in place; and other pertinent information concerning sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.
- (6) After the plugging the well, plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cement mixture.

- (7) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level.
- e. The petitioner proposes to use the following procedures after approval has been granted by the DM to mine through a plugged or replugged well:
- (1) Prior to cutting-through a plugged well, notify the DM or designee, representative of the miners, and the appropriate State agency in sufficient time for them to have a representative present.
- (2) Install drivage spads at the last open crosscut near the place to be mined to ensure intersection of the well when mining through wells using continuous mining equipment. The drivage spads will not be more than 50 feet from the well. Install drivage spads on 10-foot centers for a distance of 50 feet in advance of the well when using longwall-mining methods. The drivage spads will also be installed in the headgate.
- (3) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mine-through (when either the conventional or continuous mining method is used), will be available and operable during each well mine-through. The operator will locate the fire hose in the last open crosscut of the entry or room and maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section.
- (4) Keep available at the last open crosscut, a supply of roof support and ventilation materials sufficient to ventilate and support around the well on cut-through. In addition, keep emergency plugs and suitable sealing materials will be available in the immediate area of the well intersection.

- (5) On the shift prior to mining through the well, all equipment will be serviced and checked for permissibility. Water sprays, water pressures and water flow rates used for dust and spark suppression will be examined and any deficiencies will be corrected.
- (6) Calibrate the methane monitors on the longwall, continuous mining machine, or cutting machine and loading machine on the shift prior to mining through the well.
- (7) When mining is in progress, test methane levels with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through it. No individual is allowed on the return side during the actual cutting process until the mine-through has been completed and the area examined and declared safe. All workplace examinations will be conducted on the return side of the shearer while the shearer is idle.
- (8) Keep the working place free from accumulations of coal dust and coal spillages, and apply rock dust on the roof, rib, and floor to within 20 feet of the face when mining through the well when using continuous or conventional mining methods. Conduct rock dusting on longwall sections on the roof, rib, and floor up to both the headgate and tailgate gob.
- (9) When using continuous or conventional mining methods, the working places will be free of accumulations of coal dust and coal spillages, and rock dust will be applied on the roof, rib, and floor to within 20 feet of the face when mining through the well. On longwall sections, rock dusting will be conducted and place on the roof, rib, and floor up to both the headgate and tailgate gob.
- (10) Deenergize all equipment when the well is intersected and thoroughly examine the place and determine it is safe before resuming mining. After a well has been intersected and the

working place determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the well.

- (11) If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. In rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame is permitted in the area until adequate ventilation has been established around the wellbore and methane levels are less than 1.0 percent in all areas that will be exposed to flames and sparks from the torch. The operator will apply a thick layer of rock dust to the roof, face, floor, ribs, and any exposed coal within 20 feet of the casing prior to any use of torches.
- (12) Non-sparking (brass) tools will be located on the working section and will be used to expose and examine cased wells.
- (13) No person will be permitted in the area of the cut-through operation except those actually engaged in the mining operation, including company personnel, representative of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (14) The operator will alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift.

 This warning will be repeated for all shifts until the well has been mined through.
- (15) A certified official will directly supervise the cut-through operation and only the certified official in charge will issue instructions concerning the mine-through operation.
- (16) The responsible person required in 30 CFR 75.1501 will be responsible for well intersection emergencies. The responsible person will review the well intersection procedures prior to any planned intersection.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved part 48 training plan to the DM. The proposed revisions will include initial and refresher training regarding compliance with the terms and conditions of this petition for modification. The operator will provide all miners involved in the mine-through of a well with training regarding the requirements of this petition for modification prior to mining within 150 feet of the next well to be mined through.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved mine emergency evacuation and firefighting plan required in 30 CFR 75.1501. The petitioner will revise the plans to include the hazards and evacuation procedures to be used for well intersections. All underground miners will be trained in this revised plan within 30 days of the DM's approval of the revised evacuation plan. Such training may be done in a weekly safety meeting or other type of appropriate setting.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure or protection afforded by the existing standard.

Docket Number: M-2016-019-C.

<u>Petitioner</u>: The Harrison County Coal Company, 1 Bridge Street, Monongah, West Virginia 26554.

Mine: Harrison County Mine, MSHA I.D. No. 46-01318, located in Marion County, West Virginia.

Regulation Affected: 30 CFR 75.1700 (Oil and gas wells).

<u>Modification Requested</u>: The petitioner requests that the previously granted petition for modification be amended for the Consolidation Coal Company, Robinson Run Mine, Docket

Number M-2001-015-C (now known as the Harrison County Coal Company, Harrison County Mine, MSHA I.D. No. 46-01318). The petitioner states that:

- (1) The large majority of petroleum wells in the Marion County Coal Company Mine were drilled prior to 1930 when no standards for drilling and plugging existed. Many wells were abandoned during that time.
- (2) Extensive research conducted by the U.S. Bureau of Mines, Energy Research and Development Administration, MSHA and past experience by Consolidation Coal Company has disclosed that certain plugging methods can effectively prevent explosive well gases from entering the mine during regular mining operations and allow additional safety and operational benefits that are not possible under §75.1700.
- (3) In lieu of establishing and maintaining barriers around oil and gas wells, the petitioner proposes to seal the Pittsburgh Coal Seam from the surrounding strata at the affected wells by using technology developed through the petitioner's successful well-plugging program. Since the inception of the well-plugging program, thousands of previously abandoned oil and gas wells have been effectively plugged and successfully been mined through or around.
- (4) In lieu of the method of plugging oil and gas wells approved in the previously granted petition, the petitioner proposes an alternative method that incorporates proven technological advances not available for plugging oil and gas wells when the previous petition was granted.

As an alternative method of compliance with 30 CFR 75.1700, the petitioner proposes to maintain a safety barrier of 300 feet in diameter (150 feet between any mined area and a well) around all oil and gas wells (defined to include all active, inactive, abandoned, shut-in, and

previously plugged wells, including water injection wells) until approval to proceed with mining has been obtained from the District Manager (DM).

Prior to mining through any oil or gas wells, the petitioner will provide to the DM a declaration stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed. The declaration will be accompanied by logs described in this petition and any other records that the DM may request. The DM will review the declaration, the logs and any other records that have been requested, and may inspect the well, and will then determine if the operator has complied with the procedures for cleaning out, preparing and plugging each well. If the DM determines that the procedures have been complied with and provides an approval, the operator may then mine within the safety barrier of the well according to the terms of the Order.

- a. The petitioner proposes to use the following procedures when cleaning out and preparing oil and gas wells prior to plugging or replugging:
- (1) If the total depth of the well is less than 4,000 feet, the operator will completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam unless the DM requires cleaning to a greater depth based on what is required due to the geological strata, or due to the pressure within the well. If the total depth of the well is 4,000 feet or greater, the operator will completely clean out the well from the surface to at least 400 feet below the base of the lowest mineable coal seam. The operator will remove all material from the entire diameter of well, wall to wall.
- (2) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for a bridge plug. The DM may approve the use

of a down-hole camera survey in lieu of down-hole logs. In addition, maintain a journal describing: the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; length and type of each material used to plug the well; the length of casing(s) removed, perforated or ripped, or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.

- (3) Remove all of the casing in the well or, if it is not possible to remove all of the casing, fill the annulus between the casings and between the casings and the well walls with expanding cement (minimum 0.5 percent expansion on setting) and ensure that these areas contain no voids. If the casing cannot be removed, the operator will cut or mill it at all mineable coal seam levels and perforate or rip it at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. If the operator can demonstrate to the satisfaction of the DM that all annuli in the well are already adequately sealed with cement using a casing bond log, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), the operator will perforate or rip any casing that remains and fill with expanding cement and keep an acceptable casing bond log for each casing and tubing string used in lieu of ripping or perforating multiple strings.
- (4) Place a mechanical bridge plug in the well if a cleaned-out well emits excessive amounts of gas. Place the mechanical bridge plug in a competent stratum at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal

seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the DM requires a greater distance based on what is required due to the geological strata, or due to the pressure within the well. (The operator will provide the DM with all information it possesses concerning the geologic nature of the strata and the pressure of the well.) If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used.

- (5) Properly place mechanical bridge plugs to isolate the hydrocarbon-producing stratum from the expanding cement plug, if the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam. Nevertheless, the operator will place a minimum of 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater distance base on what is required due to the geological strata, or due to the pressure within the well.
- b. The petitioner proposes to use the following procedures for plugging or replugging oil or gas wells to the surface:
- (1) Pump expanding cement slurry down the well to form a plug that runs from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam (or lower if required by the DM due to the geological strata, or due to pressure within the well) to the surface. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch. Portland cement or a lightweight cement mixture may be used to fill the area from 100 feet above the top of the uppermost mineable coal seam (or higher if required by the DM due to the geological strata, or due to the pressure within the well) to the surface.
- (2) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a

4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the American Petroleum Institute (API) well number either engraved or welded on the casing.

When the hole cannot be marked with a physical monument (e.g., prime farmland), the operator will use high-resolution GPS coordinates (one-half meter resolution) to locate the hole.

- c. The petitioner proposes to use the following procedures for plugging or replugging oil and gas wells for subsequent use as degasification boreholes:
- (1) Set a cement plug in the well by pumping expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to the pressure within the well. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch and extend the top of the expanding cement at least 100 feet above the top of the coal seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well.
- (2) Securely grout a suitable casing into the bedrock of the upper portion of the degasification well to protect it. The remainder of this well may be cased or uncased.
- (3) Fit the top of the degasification casing with a wellhead, equipped as required by the DM in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.
- (4) Operation of the degasification well will be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.
- (5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, seal the degas holes using the following procedures:

- (i) Insert a tube to the bottom of the drill hole or, if not possible, to at least 100 feet above the coal seam being mined. Remove any blockage to ensure that the tube is inserted to this depth.
- (ii) Set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.
- (iii) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the API well number engraved or welded on the casing.
- d. The petitioner proposes to use the following procedures for preparing and plugging or replugging oil or gas wells that cannot be completely cleaned out:
- (1) Drill a hole adjacent and parallel to the well to a depth of at least 200 feet (or 400 feet if the total well depth is 4,000 feet or greater) below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to pressures within the well.
 - (2) Locate any casing that may remain in the well using a geophysical sensing device.
- (3) If the well contains casings, drill into the well from the parallel hole and perforate or rip all casings at intervals of at least 5 feet from 10 feet below the coal seam to 10 feet above the coal seam. Beyond that distance, perforate or rip all casings at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well. The operator will fill the annulus between the casings and between the casings and the well wall with expanding cement (minimum of 0.5% expansion on setting), and ensure that these areas contain no voids.

When multiple casing and tubing strings are present in the coal horizons, rip or perforate any casing that remains and fill with expanding cement. The operator will provide an acceptable casing bond log for each casing and tubing used in lieu of ripping or perforating multiple strings.

- (4) Use a horizontal hydraulic fracturing technique to intercept the original well where there is sufficient casing in the well to allow use of the method outlined in paragraph (d)(3) above. Fracture the original well in at least six places from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam to a point at least 50 feet above the seam being mined at intervals to be agreed on by the petitioner and the DM after considering the geological strata and the pressure within the well. The operator will pump expanding cement into the fractured well in sufficient quantities and in a manner that fills all intercepted voids.
- (5) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The operator will maintain a journal describing; the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; the length and type of each material used to plug the well; length of casing(s) removed, perforated, ripped, or left in place; and other pertinent information concerning sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.
- (6) After the plugging the well, plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cement mixture.

- (7) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level.
- e. The petitioner proposes to use the following procedures after approval has been granted by the DM to mine through a plugged or replugged well:
- (1) Prior to cutting-through a plugged well, notify the DM or designee, representative of the miners, and the appropriate State agency in sufficient time for them to have a representative present.
- (2) Install drivage spads at the last open crosscut near the place to be mined to ensure intersection of the well when mining through wells using continuous mining equipment. The drivage spads will not be more than 50 feet from the well. Install drivage spads on 10-foot centers for a distance of 50 feet in advance of the well when using longwall-mining methods. The drivage spads will also be installed in the headgate.
- (3) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mine-through (when either the conventional or continuous mining method is used), will be available and operable during each well mine-through. The operator will locate the fire hose in the last open crosscut of the entry or room and maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section.
- (4) Keep available at the last open crosscut, a supply of roof support and ventilation materials sufficient to ventilate and support around the well on cut-through. In addition, keep emergency plugs and suitable sealing materials will be available in the immediate area of the well intersection.

- (5) On the shift prior to mining through the well, all equipment will be serviced and checked for permissibility. Water sprays, water pressures and water flow rates used for dust and spark suppression will be examined and any deficiencies will be corrected.
- (6) Calibrate the methane monitors on the longwall, continuous mining machine, or cutting machine and loading machine on the shift prior to mining through the well.
- (7) When mining is in progress, test methane levels with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through it. No individual is allowed on the return side during the actual cutting process until the mine-through has been completed and the area examined and declared safe. All workplace examinations will be conducted on the return side of the shearer while the shearer is idle.
- (8) Keep the working place free from accumulations of coal dust and coal spillages, and apply rock dust on the roof, rib, and floor to within 20 feet of the face when mining through the well when using continuous or conventional mining methods. Conduct rock dusting on longwall sections on the roof, rib, and floor up to both the headgate and tailgate gob.
- (9) When using continuous or conventional mining methods, the working places will be free of accumulations of coal dust and coal spillages, and rock dust will be applied on the roof, rib, and floor to within 20 feet of the face when mining through the well. On longwall sections, rock dusting will be conducted and place on the roof, rib, and floor up to both the headgate and tailgate gob.
- (10) Deenergize all equipment when the well is intersected and thoroughly examine the place and determine it is safe before resuming mining. After a well has been intersected and the

working place determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the well.

- (11) If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. In rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame is permitted in the area until adequate ventilation has been established around the wellbore and methane levels are less than 1.0 percent in all areas that will be exposed to flames and sparks from the torch. The operator will apply a thick layer of rock dust to the roof, face, floor, ribs, and any exposed coal within 20 feet of the casing prior to any use of torches.
- (12) Non-sparking (brass) tools will be located on the working section and will be used to expose and examine cased wells.
- (13) No person will be permitted in the area of the cut-through operation except those actually engaged in the mining operation, including company personnel, representative of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (14) The operator will alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift.

 This warning will be repeated for all shifts until the well has been mined through.
- (15) A certified official will directly supervise the cut-through operation and only the certified official in charge will issue instructions concerning the mine-through operation.
- (16) The responsible person required in 30 CFR 75.1501 will be responsible for well intersection emergencies. The responsible person will review the well intersection procedures prior to any planned intersection.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved part 48 training plan to the DM. The proposed revisions will include initial and refresher training regarding compliance with the terms and conditions of this petition for modification. The operator will provide all miners involved in the mine-through of a well with training regarding the requirements of this petition for modification prior to mining within 150 feet of the next well to be mined through.

Within 30 days after this petition becomes final, the petitioner will submit proposed revisions for its approved mine emergency evacuation and firefighting plan required in 30 CFR 75.1501. The petitioner will revise the plans to include the hazards and evacuation procedures to be used for well intersections. All underground miners will be trained in this revised plan within 30 days of the DM's approval of the revised evacuation plan. Such training may be done in a weekly safety meeting or other type of appropriate setting.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure or protection afforded by the existing standard.

Docket Number: M-2016-020-C.

<u>Petitioner</u>: The Ohio County Coal Company, 1 Bridge Street, Monongah, West Virginia 26554.

<u>Mine</u>: Ohio County Mine, MSHA I.D. No. 46-01436, located in Marshall County, West Virginia.

Regulation Affected: 30 CFR 75.1700 (Oil and gas wells).

Modification Requested: The petitioner requests that the previously granted petition for modification be amended for the Consolidation Coal Company, Shoemaker Mine, Docket Number M-1990-066-C (now known as the Ohio County Coal Company, Ohio County Mine, MSHA I.D. No. 46-01436). The petitioner states that:

- (1) The large majority of petroleum wells in the Marion County Coal Company Mine were drilled prior to 1930 when no standards for drilling and plugging existed. Many wells were abandoned during that time.
- (2) Extensive research conducted by the U.S. Bureau of Mines, Energy Research and Development Administration, MSHA and past experience by Consolidation Coal Company has disclosed that certain plugging methods can effectively prevent explosive well gases from entering the mine during regular mining operations and allow additional safety and operational benefits that are not possible under §75.1700.
- (3) In lieu of establishing and maintaining barriers around oil and gas wells, the petitioner proposes to seal the Pittsburgh Coal Seam from the surrounding strata at the affected wells by using technology developed through the petitioner's successful well-plugging program. Since the inception of the well-plugging program, thousands of previously abandoned oil and gas wells have been effectively plugged and successfully been mined through or around.
- (4) In lieu of the method of plugging oil and gas wells approved in the previously granted petition, the petitioner proposes an alternative method that incorporates proven technological advances not available for plugging oil and gas wells when the previous petition was granted.

As an alternative method of compliance with 30 CFR 75.1700, the petitioner proposes to maintain a safety barrier of 300 feet in diameter (150 feet between any mined area and a well) around all oil and gas wells (defined to include all active, inactive, abandoned, shut-in, and previously plugged wells, including water injection wells) until approval to proceed with mining has been obtained from the District Manager (DM).

Prior to mining through any oil or gas wells, the petitioner will provide to the DM a declaration stating that all mandatory procedures for cleaning out, preparing, and plugging each gas or oil well have been completed. The declaration will be accompanied by logs described in this petition and any other records that the DM may request. The DM will review the declaration, the logs and any other records that have been requested, and may inspect the well, and will then determine if the operator has complied with the procedures for cleaning out, preparing and plugging each well. If the DM determines that the procedures have been complied with and provides an approval, the operator may then mine within the safety barrier of the well according to the terms of the Order.

- a. The petitioner proposes to use the following procedures when cleaning out and preparing oil and gas wells prior to plugging or replugging:
- (1) If the total depth of the well is less than 4,000 feet, the operator will completely clean out the well from the surface to at least 200 feet below the base of the lowest mineable coal seam unless the DM requires cleaning to a greater depth based on what is required due to the geological strata, or due to the pressure within the well. If the total depth of the well is 4,000 feet or greater, the operator will completely clean out the well from the surface to at least 400 feet below the base of the lowest mineable coal seam. The operator will remove all material from the entire diameter of well, wall to wall.
- (2) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for a bridge plug. The DM may approve the use of a down-hole camera survey in lieu of down-hole logs. In addition, maintain a journal describing: the depth and nature of each material encountered; bit size and type used to drill each

portion of the hole; length and type of each material used to plug the well; the length of casing(s) removed, perforated or ripped, or left in place; any sections where casing was cut or milled; and other pertinent information concerning cleaning and sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.

- (3) Remove all of the casing in the well or, if it is not possible to remove all of the casing, fill the annulus between the casings and between the casings and the well walls with expanding cement (minimum 0.5 percent expansion on setting) and ensure that these areas contain no voids. If the casing cannot be removed, the operator will cut or mill it at all mineable coal seam levels and perforate or rip it at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the uppermost mineable coal seam. If the operator can demonstrate to the satisfaction of the DM that all annuli in the well are already adequately sealed with cement using a casing bond log, then the operator will not be required to perforate or rip the casing for that particular well. When multiple casing and tubing strings are present in the coal horizon(s), the operator will perforate or rip any casing that remains and fill with expanding cement and keep an acceptable casing bond log for each casing and tubing string used in lieu of ripping or perforating multiple strings.
- (4) Place a mechanical bridge plug in the well if a cleaned-out well emits excessive amounts of gas. Place the mechanical bridge plug in a competent stratum at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam, but above the top of the uppermost hydrocarbon-producing stratum, unless the DM requires a greater distance based on what is required due to the geological strata, or due to the

pressure within the well. (The operator will provide the DM with all information it possesses concerning the geologic nature of the strata and the pressure of the well.) If it is not possible to set a mechanical bridge plug, an appropriately sized packer may be used.

- (5) Properly place mechanical bridge plugs to isolate the hydrocarbon-producing stratum from the expanding cement plug, if the upper-most hydrocarbon-producing stratum is within 300 feet of the base of the lowest mineable coal seam. Nevertheless, the operator will place a minimum of 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater distance base on what is required due to the geological strata, or due to the pressure within the well.
- b. The petitioner proposes to use the following procedures for plugging or replugging oil or gas wells to the surface:
- (1) Pump expanding cement slurry down the well to form a plug that runs from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam (or lower if required by the DM due to the geological strata, or due to pressure within the well) to the surface. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch. Portland cement or a lightweight cement mixture may be used to fill the area from 100 feet above the top of the uppermost mineable coal seam (or higher if required by the DM due to the geological strata, or due to the pressure within the well) to the surface.
- (2) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the American Petroleum Institute (API) well number either engraved or welded on the casing.

When the hole cannot be marked with a physical monument (e.g., prime farmland), the operator will use high-resolution GPS coordinates (one-half meter resolution) to locate the hole.

- c. The petitioner proposes to use the following procedures for plugging or replugging oil and gas wells for subsequent use as degasification boreholes:
- (1) Set a cement plug in the well by pumping expanding cement slurry down the tubing to provide at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) of expanding cement below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to the pressure within the well. The operator will place the expanding cement in the well under a pressure of at least 200 pounds per square inch and extend the top of the expanding cement at least 100 feet above the top of the coal seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well.
- (2) Securely grout a suitable casing into the bedrock of the upper portion of the degasification well to protect it. The remainder of this well may be cased or uncased.
- (3) Fit the top of the degasification casing with a wellhead, equipped as required by the DM in the approved ventilation plan. Such equipment may include check valves, shut-in valves, sampling ports, flame arrestor equipment, and security fencing.
- (4) Operation of the degasification well will be addressed in the approved ventilation plan. This may include periodic tests of methane levels and limits on the minimum methane concentrations that may be extracted.
- (5) After the area of the coal mine that is degassed by a well is sealed or the coal mine is abandoned, seal the degas holes using the following procedures:

- (i) Insert a tube to the bottom of the drill hole or, if not possible, to at least 100 feet above the coal seam being mined. Remove any blockage to ensure that the tube is inserted to this depth.
- (ii) Set a cement plug in the well by pumping Portland cement or a lightweight cement mixture down the tubing until the well is filled to the surface.
- (iii) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level with the API well number engraved or welded on the casing.
- d. The petitioner proposes to use the following procedures for preparing and plugging or replugging oil or gas wells that cannot be completely cleaned out:
- (1) Drill a hole adjacent and parallel to the well to a depth of at least 200 feet (or 400 feet if the total well depth is 4,000 feet or greater) below the lowest mineable coal seam, unless the DM requires a greater depth due to the geological strata, or due to pressures within the well.
 - (2) Locate any casing that may remain in the well using a geophysical sensing device.
- (3) If the well contains casings, drill into the well from the parallel hole and perforate or rip all casings at intervals of at least 5 feet from 10 feet below the coal seam to 10 feet above the coal seam. Beyond that distance, perforate or rip all casings at least every 50 feet from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam up to 100 feet above the seam being mined, unless the DM requires a greater distance due to the geological strata, or due to the pressure within the well. The operator will fill the annulus between the casings and between the casings and the well wall with expanding cement (minimum of 0.5% expansion on setting), and ensure that these areas contain no voids.

When multiple casing and tubing strings are present in the coal horizons, rip or perforate any casing that remains and fill with expanding cement. The operator will provide an acceptable casing bond log for each casing and tubing used in lieu of ripping or perforating multiple strings.

- (4) Use a horizontal hydraulic fracturing technique to intercept the original well where there is sufficient casing in the well to allow use of the method outlined in paragraph (d)(3) above. Fracture the original well in at least six places from at least 200 feet (400 feet if the total well depth is 4,000 feet or greater) below the base of the lowest mineable coal seam to a point at least 50 feet above the seam being mined at intervals to be agreed on by the petitioner and the DM after considering the geological strata and the pressure within the well. The operator will pump expanding cement into the fractured well in sufficient quantities and in a manner that fills all intercepted voids.
- (5) Prepare down-hole logs for each well. The logs will consist of a caliper survey and be suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The operator will maintain a journal describing; the depth and nature of each material encountered; bit size and type used to drill each portion of the hole; the length and type of each material used to plug the well; length of casing(s) removed, perforated, ripped, or left in place; and other pertinent information concerning sealing the well. Invoices, work-orders, and other records relating to all work on the well will be maintained as part of the journal and provided to MSHA on request.
- (6) After the plugging the well, plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cement mixture.

- (7) Embed steel turnings or other small magnetic particles in the top of the cement near the surface to serve as a permanent magnetic monument of the well. In the alternative, extend a 4½-inch or larger casing, set in cement, at least 36 inches above the ground level.
- e. The petitioner proposes to use the following procedures after approval has been granted by the DM to mine through a plugged or replugged well:
- (1) Prior to cutting-through a plugged well, notify the DM or designee, representative of the miners, and the appropriate State agency in sufficient time for them to have a representative present.
- (2) Install drivage spads at the last open crosscut near the place to be mined to ensure intersection of the well when mining through wells using continuous mining equipment. The drivage spads will not be more than 50 feet from the well. Install drivage spads on 10-foot centers for a distance of 50 feet in advance of the well when using longwall-mining methods. The drivage spads will also be installed in the headgate.
- (3) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mine-through (when either the conventional or continuous mining method is used), will be available and operable during each well mine-through. The operator will locate the fire hose in the last open crosscut of the entry or room and maintain the water line to the belt conveyor tailpiece along with a sufficient amount of fire hose to reach the farthest point of penetration on the section.
- (4) Keep available at the last open crosscut, a supply of roof support and ventilation materials sufficient to ventilate and support around the well on cut-through. In addition, keep emergency plugs and suitable sealing materials will be available in the immediate area of the well intersection.

- (5) On the shift prior to mining through the well, all equipment will be serviced and checked for permissibility. Water sprays, water pressures and water flow rates used for dust and spark suppression will be examined and any deficiencies will be corrected.
- (6) Calibrate the methane monitors on the longwall, continuous mining machine, or cutting machine and loading machine on the shift prior to mining through the well.
- (7) When mining is in progress, test methane levels with a hand-held methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through it. No individual is allowed on the return side during the actual cutting process until the mine-through has been completed and the area examined and declared safe. All workplace examinations will be conducted on the return side of the shearer while the shearer is idle.
- (8) Keep the working place free from accumulations of coal dust and coal spillages, and apply rock dust on the roof, rib, and floor to within 20 feet of the face when mining through the well when using continuous or conventional mining methods. Conduct rock dusting on longwall sections on the roof, rib, and floor up to both the headgate and tailgate gob.
- (9) When using continuous or conventional mining methods, the working places will be free of accumulations of coal dust and coal spillages, and rock dust will be applied on the roof, rib, and floor to within 20 feet of the face when mining through the well. On longwall sections, rock dusting will be conducted and place on the roof, rib, and floor up to both the headgate and tailgate gob.
- (10) Deenergize all equipment when the well is intersected and thoroughly examine the place and determine it is safe before resuming mining. After a well has been intersected and the

working place determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the well.

- (11) If the casing is cut or milled at the coal seam level, the use of torches should not be necessary. In rare instances, torches may be used for inadequately or inaccurately cut or milled casings. No open flame is permitted in the area until adequate ventilation has been established around the wellbore and methane levels are less than 1.0 percent in all areas that will be exposed to flames and sparks from the torch. The operator will apply a thick layer of rock dust to the roof, face, floor, ribs, and any exposed coal within 20 feet of the casing prior to any use of torches.
- (12) Non-sparking (brass) tools will be located on the working section and will be used to expose and examine cased wells.
- (13) No person will be permitted in the area of the cut-through operation except those actually engaged in the mining operation, including company personnel, representative of the miners, personnel from MSHA, and personnel from the appropriate State agency.
- (14) The operator will alert all personnel in the mine to the planned intersection of the well prior to their going underground if the planned intersection is to occur during their shift.

 This warning will be repeated for all shifts until the well has been mined through.
- (15) A certified official will directly supervise the cut-through operation and only the certified official in charge will issue instructions concerning the mine-through operation.
- (16) The responsible person required in 30 CFR 75.1501 will be responsible for well intersection emergencies. The responsible person will review the well intersection procedures prior to any planned intersection.

Within 30 days after this petition becomes final, the petitioner will submit proposed

revisions for its approved part 48 training plan to the DM. The proposed revisions will include

initial and refresher training regarding compliance with the terms and conditions of this petition

for modification. The operator will provide all miners involved in the mine-through of a well

with training regarding the requirements of this petition for modification prior to mining within

150 feet of the next well to be mined through.

Within 30 days after this petition becomes final, the petitioner will submit proposed

revisions for its approved mine emergency evacuation and firefighting plan required in 30 CFR

75.1501. The petitioner will revise the plans to include the hazards and evacuation procedures to

be used for well intersections. All underground miners will be trained in this revised plan within

30 days of the DM's approval of the revised evacuation plan. Such training may be done in a

weekly safety meeting or other type of appropriate setting.

The petitioner asserts that the proposed alternative method will at all times guarantee no

less than the same measure or protection afforded by the existing standard.

Sheila McConnell

Director,

Office of Standards, Regulations, and Variances

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